

Applicants: Botha, et al.
Serial No.: 09/779,237

EXHIBIT D

Clean Version Of All Claims

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1. (Amended) A method of regulating sucrose content in a sugarcane plant comprising up regulating or down regulating the activity of the PFP enzyme in the plant.
 2. (Amended) A method according to claim 1 which comprises increasing the sucrose content of the plant by down regulating the activity of the PFP enzyme in the plant.
 3. (Amended) A method according to claim 2 wherein the activity of the PFP enzyme is down regulated by introducing an untranslatable form of an antisense form of the nucleotide sequence as set out in either of SEQ. ID Nos: 1 or 2, or a nucleotide sequence which is complementary to the nucleotide sequence of SEQ. ID Nos: 1 or 2.
 4. (Amended) A method according to claim 3 wherein the untranslatable or antisense nucleotide sequence is introduced into the plant using plant expression vector, pUSPc 510 or pASPc 510.
 6. (Amended) An isolated nucleotide sequence comprising:
 - (i) a nucleotide sequence as set out in either one of Figure 1 (SEQ. ID No: 1) or Figure 2 (SEQ. ID No: 2);
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- (ii) a nucleotide sequence which is complementary to the nucleotide sequence of (i); or
- (iii) a portion of the nucleotide sequence of (i) which is capable of up or down regulating the activity of the PFP enzyme in sugarcane.
8. A nucleotide sequence according to claim 6 which is in an antisense orientation.
9. (Amended) A gene construct comprising a promoter and a nucleotide sequence as defined in claim 6 in the sense orientation, the gene construct lacking a translation initiation codon upstream of the nucleotide sequence or possessing an in-frame termination codon directly downstream of the initiating codon.
12. A gene construct comprising a promoter and a nucleotide sequence as defined in claim 6 in an antisense orientation.
15. (Amended) The plant expression vector pUSPc 510 which includes the nucleotide sequence of Figure 1 (SEQ. ID No: 1) or Figure 2 (SEQ. ID No: 2) in a sense orientation, but in an untranslatable form.
16. (Amended) The plant expression vector pASPc 510 which includes the nucleotide sequence of Figure 1 (SEQ. ID No: 1) or Figure 2 (SEQ. ID No: 2) in an antisense orientation.
17. (Amended) A transformed sugarcane plant cell which includes a gene construct according to claim 9.

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18. (Amended) A transgenic plant or plant part containing the transformed plant cell of claim 17.
20. (Amended) A transformed plant cell according to claim 17 which is characterized by a lower level of the PFP β protein, relative to an untransformed plant.
21. (Amended) A transformed plant or plant part according to claim 18 characterized by a lower level of the PFP β protein, relative to an untransformed plant.
22. (Amended) A transformed plant cell according to claim 17 characterized by a lower level of PFP activity, relative to an untransformed plant.
23. (Amended) A transgenic plant or plant part according to claim 18 characterized by a lower level of PFP activity, relative to an untransformed plant.
24. (Amended) A transformed plant cell according to claim 17 characterized by a higher level of sucrose, relative to an untransformed plant.
25. (Amended) A transgenic plant or plant part according to claim 18 characterized by a higher level of sucrose, relative to an untransformed plant.
26. (Amended) A method of regulating the level of active PFP in a sugarcane plant cell comprising the step of transforming the plant cell with at least one gene construct according to claim 9.

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27. (Amended) A method of increasing the sucrose level in sugarcane plant tissue comprising the step of transforming cells of the plant tissue with at least one gene construct according to claim 9.

28. (Amended) A method of increasing sucrose metabolism in a plant cell of a sugar-storing plant comprising the step of co-transforming the cell with a gene construct according to claim 9.